

Abstract of the Disclosure

A new ionization source named Surface Activated Chemical Ionization (SACI) has been discovered and used to improve the sensitivity of the mass spectrometer. According to this invention the ionization chamber of a mass spectrometer is heated and contains a physical new surface to improve the ionization process. The analyte neutral molecules that are present in gas phase are ionized on this surface. The surface can be made of various materials and may also chemically modified so to bind different molecules. This new ionization source is able to generate ions with high molecular weight and low charge, an essential new key feature of the invention so to improve sensitivity and reduce noise. The new device can be especially used for the analysis of proteins, peptides and other macromolecules. The new invention overcomes some of the well known and critical limitations of the Electrospray (ESI) and Matrix Assisted Laser Desorption Ionization (MALDI) mass spectrometric techniques.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 April 2004 (22.04.2004)

PCT

(10) International Publication Number
WO 2004/034011 A3

(51) International Patent Classification⁷: H01J 49/04,
49/14, 49/16

(21) International Application Number:
PCT/IB2003/004297

(22) International Filing Date:
30 September 2003 (30.09.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/417,183 10 October 2002 (10.10.2002) US

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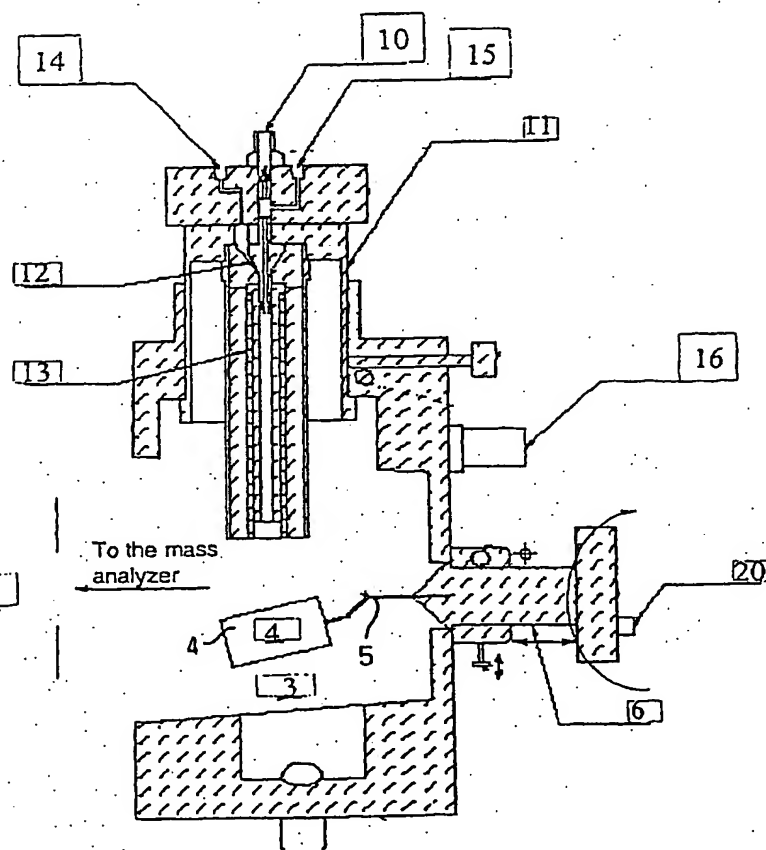
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(81) Designated States (national): AE, AG, AL, AM, AT (uti-
lity model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (uti-
lity model), DE, DK (utility model), DK, DM, DZ, EC, EE
(utility model), EE, EG, ES, FI (utility model), FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT (utility
model), PT, RO, RU, SC, SD, SE, SG, SK (utility model),
SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW.

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(54) Title: IONIZATION SOURCE FOR MASS SPECTROMETRY ANALYSIS



(57) Abstract: An ionization source named Surface Activated Chemical Ionization (SACI) has been discovered and used to improve the sensitivity of the mass spectrometer. According to this invention the ionization chamber of a mass spectrometer is heated and contains a surface to improve the ionization process. The analyte neutral molecules that are present in gas phase are ionized on this surface. This ionization source is able to generate ions with high molecular weight and low charge, an essential key feature of the invention so to improve sensitivity and reduce noise.

WO 2004/034011 A3



(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
15 July 2004

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.